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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,741	12/17/2003	Eliav Zipper	P-6114-US	5609

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PEARL COHEN ZEDEK LATZER, LLP  
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NEW YORK, NY 10036

EXAMINER
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JACKSON, BLANE J

ART UNIT	PAPER NUMBER
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2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/02/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/736,741	<b>Applicant(s)</b> ZIPPER, ELIAV	
	<b>Examiner</b> Blane J. Jackson	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 4-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-7 and 17-27 is/are allowed.
- 6) ☒ Claim(s) 8, 10-13 is/are rejected.
- 7) ☒ Claim(s) 9, 14 -16 is/are objected to.
- 8) ☒ Claim(s) 1-3 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

The changes to the Specification and Title filed 26 October 2006 are accepted by the examiner.

### ***Response to Arguments***

Applicant's argument with respect to claim 8 has been considered but is moot in view of the new ground(s) of rejection. Hagh et al., unlike Scheffler in view of Hostetter, teaches a method of outphasing modulation.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Ballantyne (US 6,983,024).

As to claim 8, Ballantyne teaches a modulation method comprising:

Multiplying a phase modulated carrier signal by an amplitude modulation signal with a scaling factor to produce an amplitude modulated signal (figure 2a, column 3, line

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57 to column 60, a quadra polar modulator utilizes amplitude modulators (230x) on the signal carrier  $W_i(t)$  but adapted for a linear amplification with nonlinear components (LINC) type modulator, column 1, lines 27-45 and column 9, line 57 to column 10, line 22, used to modulate a carrier signal with data),

Phase splitting said amplitude modulated signal to generate phase shifted modulated signals (column 10, lines 10-22, the modulated signal output is composed of two constant-amplitude phase-modulated carrier signals).

As to claim 10, Ballantyne teaches the method of claim 8 further comprising setting said scaling factor at substantially half-second time intervals (column 10, lines 17-22, the I and Q modulating signals are pre-processed to obtain the phase modulated signals which are then used to modulate the phase of two versions of the output carrier signals).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ballantyne (US 6,983,024) with a view to Hornak (US 5,365,187).

Ballantyne teaches the method of claim 8 but does not teach limiting an amplified version of a first of said phase shifted modulated signals with a limiting function to generate a phase shifted limited signal.

Hornak teaches a power amplifier utilizing the vector addition of two constant envelope carriers in LINC architecture, figure 1, column 4, lines 35-62. Hornak further discloses a summing circuit (106) that generates a signal that is the weighted sum of the first and second constant envelope signals, the weight factors being introduced by gain cells (103 and 108), the output to drive one of two power amplifiers (114) via limiter (112), column 4, lines 48-65.

Since Ballantyne teaches the modulated signal is composed of two constant-amplitude phase-modulated carrier signals, column 10, lines 10-12, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ballantyne with the limiters of Hornak to guarantee that the power amplifiers are driven by constant amplitude signals.

As to claim 12 with respect to claim 11, Hornak of Ballantyne modified teaches an amplification of the amplified version is controllable (column 4, lines 35-53, summing circuit 106 generates a signal that is the weighted sum of the first and second constant envelope signals, the weight factors being introduced by gain cells (103) and (108)).

As to claim 13 with respect to claim 11, Hornak of Ballantyne modified teaches the limiting function is controllable (column 5, lines 9-50, controllable in the sense the

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input to the drive limiters (112 and 113) is sufficiently large to drive the limiters to saturation).

***Allowable Subject Matter***

Claims 9, 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. As to claim 9, the prior art made of record teaches the method of claim 8 but does not teach the application of the claim elements with respect to outphased modulated signals used by a power amplifier.

Claims 4-7 and 17-27 are allowed. The following is a statement of reasons for the indication of allowable subject matter:

As to claim 4, the prior art made of record failed to teach a modulation method comprising the claimed method of generating outphased signals from the first phase shifted modulated signal and the second phase shifted modulated signal.

As to claims 17 and 21, the prior art made of record failed to teach an outphasing modulator including a sum-difference combiner coupled to the phase splitter, the sum-different combiner to produce from the phase shifted modulated signals outphased modulated signals.

***Conclusion***

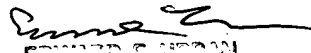
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blane J. Jackson whose telephone number is (571) 272-7890. The examiner can normally be reached on Monday through Friday, 9:00 AM-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BJJ

  
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